Re: Clarification on Convolution for 6222 Semester 2 2023-2024 Question 3(c)

JX Jiang Xudong (Assoc Prof)

答复 全部答复 转发 ...

2024/11/22 (周五) 9:53

将邮件翻译为: 中文 (简体) | 绝不要翻译: 英语 | 翻译首选项

开始使用全部答复: Thank you for the clarification. | Okay, thank you! | Ok, thanks. | 反馈

According to the definition of Convolution, kernel should be **flipped both horizontally and vertically** before performing the element-wise multiplication with the input image. No flip is also correct because the kernel is learned from input image. So flip or not will produce the same results in learning and prediction. Yes, your representation is OK.

Best Regards,
Jiang Xudong

Date: Thursday, 21 November 2024 at 5:59 PM
To: Jiang Xudong (Assoc Prof) <EXDJiang@ntu.edu.sg>
Subject: Clarification on Convolution for 6222 Semester 2 2023-2024 Question 3(c)

Dear Prof. Jiang Xudong,
I hope this email finds you well.
I am writing to seek clarification regarding the convolution operation in **Question 3(c)** of the 6222 Semester 2 2023-2024 exam. Specifically, in the lecture slides, the convolution operation was taught such that the kernel is **flipped both horizontally and vertically** before performing the element-wise multiplication with the input image. However, in other courses I have taken, the convolution was taught without this flipping step.
For Question 3(c), I would like to confirm if the convolution operation in this context also involves flipping the kernel before performing the multiplication, as illustrated in the attached images.
Additionally, I have constructed Wj as shown in the attached diagram for the convolution in this problem. Could you please verify if this representation aligns with the intended setup for the question?
Thank you for your time and clarification!
Best regards,